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Rosemary Fields  
Rosemary Fields

**IN THE UNITED STATES PATENT & TRADEMARK OFFICE**

Applicant: Paul Stiros et al. : Paper No.:  
Serial No.: 09/775,999 : Group Art Unit: 1744  
Filing Date: February 2, 2001 : Examiner: M. Chorbaji  
For: **Apparatus and Method for Deodorizing Confined Air Spaces which Utilize Baking Soda**

**TRANSMITTAL OF APPEAL BRIEF**

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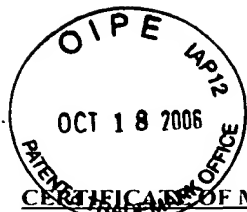
Submitted herewith is an Appeal Brief in support of the Notice of Appeal filed by Certificate of Mail on August 14, 2006 and received by the U.S. Patent and Trademark Office on August 21, 2006. Please charge the amount of \$500.00 to our Visa credit card account. Form PTO-2038 is attached. Please charge any additional fees required in connection with the present communication, or credit any overpayment, to Deposit Account No. 04-1133.

Respectfully submitted,

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**APPEAL BRIEF**

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

10/18/2006 CNGUYEN 00000051 09775999  
01 FC:1402 500.00 OP

The present Appeal Brief is submitted in support of the Notice of Appeal filed by Certificate of Mail on August 14, 2006 and received by the U.S. Patent and Trademark Office on August 21, 2006.

**I. REAL PARTY IN INTEREST**

The real party in interest in this appeal is the assignee of the present application, The Procter & Gamble Company.

**II. RELATED APPEALS AND INTERFERENCES**

There are no other prior or pending appeals, interferences or judicial proceedings known to the Appellants, the Appellants' undersigned legal representative or the assignee which may be related to, directly affect or be directly affected by or having a bearing on the issues in the present appeal.

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**III. STATUS OF CLAIMS**

Claims 1-21 have been cancelled. Claims 22-41 are pending and stand rejected and are the subject of the present appeal. A complete copy of appealed claims 22-41 is set forth in Section VIII, Claims Appendix, below.

**IV. STATUS OF AMENDMENTS**

No claim amendments were made subsequent to the filing of the Official Action dated May 12, 2006.

**V. SUMMARY OF CLAIMED SUBJECT MATTER**

Of pending claims 22-41, claims 35, 40 and 41 are in independent form. According to independent claim 35, a method for deodorizing air in confined space comprises the steps of:

(a) providing a passive filter member comprising a first filter element, the first filter element comprising a first filter medium which at least partially comprises sodium bicarbonate, and the passive filter member being adapted to remove malodor from air without the assistance of an air moving member;

(b) providing a forced air filter member having an air flow path from an air inlet to an air outlet, the forced air filter member comprising a second filter element and an air moving member, the second filter element comprising a second filter medium which at least partially comprises sodium bicarbonate, the air moving member having a housing and being adapted to move air along the air flow path and through at least a portion of the second filter medium, the second filter element being positioned on an upper exterior portion of the housing and detachable from the air moving member, interfacing parts of the second filter element and the upper exterior portion of the housing having complimentary surface topography, and the passive filter member being interchangeable with the second filter element for positioning on the exterior portion of the housing;

- (c) positioning the passive filter member inside a confined space;
- (d) positioning the forced air filter member inside the confined space during the same period of time as the passive filter member is positioned within the confined space, but in a location that is independent from the position of the passive filter member; and
- (e) neutralizing odor in the air of the confined space by allowing air to come into proximity with the first filter member and by drawing air toward the sodium bicarbonate in the second filter member (see, for example, the specification at page 5, lines 27-33, page 6, lines 12-23, page 8, lines 21-23, page 11, lines 5-19 and page 16, lines 13-29).

Claims 36-39 further define the method for deodorizing air in confined space according to claim 35. According to claim 36, the passive filter member is of the same shape as the second filter element (see, for example, the specification at page 6, lines 1-3). According to claim 37, the passive filter member is the same size as the second filter element (see, for example, the specification at page 6, lines 1-3). According to claim 38, the confined space being inside a refrigerator (see, for example, the specification at page 5, lines 23-25). According to claim 39, the confined space comprising a compartment separate from the remainder of the confined space, and the passive filter member being positioned inside the compartment and the forced air filter being positioned in a remaining portion of the confined space (see, for example, the specification at page 15, lines 18-28).

According to independent claim 40, a system for deodorizing air comprises:

a passive filter member comprising a first filter element, the first filter element comprising a first filter medium which at least partially comprises sodium bicarbonate, and the passive filter member being adapted to remove malodor from air without the assistance of an air moving member; and

a forced air filter member having an air flow path from an air inlet to an air outlet, the forced air filter member comprising a second filter element and an air moving member, the

second filter element comprising a second filter medium which at least partially comprises sodium bicarbonate, the air moving member having a housing and being adapted to move air along the air flow path and through at least a portion of the second filter medium, the second filter element being positioned on an upper exterior portion of the housing and detachable from the air moving member, interfacing parts of the second filter element and the upper exterior portion of the housing having complimentary surface topography;

and the passive filter member being interchangeable with the second filter element for positioning on the exterior portion of the housing (see, for example, the specification at page 5, lines 27-33, page 6, lines 12-23, page 8, lines 21-23 and page 16, lines 13-29).

Claims 22-34 further define the system for deodorizing air according to claim 40. According to claim 22, the passive filter member is of the same shape as the second filter element (see, for example, the specification at page 6, lines 1-3). According to claim 23, the passive filter member is the same size as the second filter element (see, for example, the specification at page 6, lines 1-3). According to claim 24, each of the passive filter member and the second filter element comprises a cartridge (see, for example, the specification at page 10, lines 11-12). According to claim 25, each cartridge comprises a top portion and a bottom portion and being provided with one or more air inlets in the top portion and one or more air outlets in the bottom portion (see, for example, the specification at page 7, lines 13-16, and Figs. 3-4, elements 34 and 36). According to claim 26, the upper exterior portion of the air moving member comprises a housing having an air inlet therein, and the second filter element cartridge is positioned on the upper exterior portion of the housing of the air moving member so that the one or more air outlets on the bottom portion of the second filter element cartridge are at least partially in alignment with the air inlet of the air moving member (see, for example, the specification at page 7, lines 13-26).

According to claim 27, the air moving member comprises a fan and the sodium

bicarbonate in each of the first filter member and the second filter member being sufficiently pervious to air so that the fan can convey air through the respective filter member (see, for example, the specification at page 8, lines 17-29 and page 13, lines 17-22). According to claim 28, each of the passive filter member and the second filter element comprises a container having at least two sides comprised of an air pervious material with the sodium bicarbonate positioned between the at least two sides of air pervious material (see, for example, the specification at page 13, lines 14-24). According to claim 29, each container comprises a bag made of air pervious material with the sodium bicarbonate positioned therein (see, for example, the specification at page 13, lines 26-29 and page 14, lines 1-8).

According to claim 30, the first filter medium and the second filter medium each further comprises activated carbon (see, for example, the specification at page 12, lines 16-25). According to claim 31, the second filter element is held in place on the air moving member by gravitational force and by surface topology of interfacing parts of the second filter element and the air moving member (see, for example, the specification at page 16, lines 13-20). According to claim 32, the interfacing parts of the second filter element and the air moving member have complementary hemispherical shapes (see, for example, the specification at page 16, lines 16-20). According to claim 33, the second filter element is removable from the air moving member by lifting the second filter element upwardly (see, for example, the specification at page 7, lines 6-11). According to claim 34, at least one of the second filter element and the passive filter member comprises a scent substance adapted to be emitted into the atmosphere (see, for example, the specification at page 20, lines 20-29).

According to independent claim 41, an apparatus for deodorizing air comprises:

a forced air filter member having an air flow path from an air inlet to an air outlet, the forced air filter member comprising a filter element and an air moving member, the filter element comprising a filter medium which at least partially comprises sodium bicarbonate, the air moving

member having a housing and being adapted to move air along the air flow path and through at least a portion of the filter medium, the filter element being positioned on an upper exterior portion of the housing and detachable from the air moving member, interfacing parts of the filter element and the upper exterior portion of the housing having complimentary surface topography (see, for example, the specification at page 6, lines 16-23, page 8, lines 21-23 and page 16, lines 13-29).

**VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

The following issues are presented for consideration by the Board:

- A. The rejection of claims 35-39 under 35 U.S.C. §103(a) as being unpatentable over Aibe et al (U.S. Patent No. 5,288,306) in view of Arnold, III (U.S. Patent No. 4,995,556) and further in view of Greif (U.S. Patent No. 4,813,344);
- B. The rejection of claims 22-26, 28-31, 33 and 40 under 35 U.S.C. §103(a) as being unpatentable over Aibe et al in view of Arnold, III;
- C. The rejection of claim 41 under 35 U.S.C. §103(a) as being unpatentable over Aibe et al in view of Arnold, III;
- D. The rejection of claim 27 under 35 U.S.C. §103(a) as being unpatentable over Aibe et al in view of Arnold, III as applied to claim 40 and further in view of Peludat (U.S. Patent No. 5,624,311); and
- E. The rejection of claim 32 and 34 under 35 U.S.C. §103(a) as being unpatentable over Aibe et al in view of Arnold, III as applied to claim 31 and further in view of Ganz (U.S. Patent No. 2,025,657).

**VII. ARGUMENT**

Appellants submit that the methods, systems and apparatus for deodorizing air defined

by the present claims 22-41 are nonobvious over and patentably distinguishable from the cited combinations of Aibe et al, Arnold, III, Greif, Peludat and Ganz.

**A. Claims 35-39 are Patentable over Aibe et al, Arnold, III and Greif Under 35 U.S.C. §103(a)**

As will be set forth in detail below, it is believed the methods of deodorizing air in confined space defined by claims 35-39 are nonobvious over and patentably distinguishable from the teachings of Aibe et al, Arnold, III and Greif. Accordingly, the rejection under 35 U.S.C. §103(a) should be reversed. Favorable action by the Board is respectfully requested.

**1. The Rejection**

In the Official Action dated May 12, 2005, the Examiner asserted that Aibe et al disclose a method for deodorizing air in a confined space, which includes a passive filter member, referring to Fig. 1, element 6, that removes malodor from air without the assistance of an air moving member, and a first filter element, referring to Fig. 17, element 127, that contains a first filter medium (col. 17, lines 17-18). The Examiner also asserted that Aibe et al, Fig. 23, teach providing a forced air filter member 194 having an air flow path from an inlet to an air outlet, and a second filter element 196 that includes a second filter medium and an air moving member 198. Moreover, the Examiner asserted that Aibe et al teach that the air moving member moves air along the air flow path and through the second filter medium and that the detachable passive filter member is interchangeable with the second filter element in the forced air filter member.

The Examiner relied on Arnold, III to teach placing a passive filter member that includes sodium bicarbonate in a refrigerator, but conceded that the reference fails to teach combining the use of a passive filter and a forced air filter. The Examiner asserted, however, that it would have been obvious to modify the method of Aibe et al by utilizing the teachings of Arnold, III in order to maximize the rate of deodorization of air inside refrigerators by combining passive and active deodorizers.



The Examiner relied on Greif to teach placing a deodorant container on the exterior surface of an air-moving member such that the interfacing surfaces of both the outer surface of the deodorizer, referring to Fig. 2, element 26, and the exterior surface of the air-moving member, referring to Fig. 2, element 22, have complimentary surface topography with each other. Therefore, according to the Examiner, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Aibe et al by placing the filter deodorizing members onto the exterior surface of the air moving member as taught by Greif so that the filter deodorizer can be attached at any location where air is moving.

**2. The Claimed Invention is Nonobvious**

The methods for deodorizing air in a confined space defined by claims 35-39 are nonobvious over and patentably distinguishable from the cited combinations Aibe et al., Arnold, III and Greif.

It is a well known problem that many food items tend to release malodors into the air which are then captured in the limited air space of a confined area, such as in a refrigerator. Not only are these malodors unpleasant and offensive to the user of the refrigerator, they can also have a negative impact on the quality of other foods in the refrigerator. For example, it is known that some foods emit strong odors (e.g. fish, boiled eggs, onions, etc.) and that these odors can transfer to other nearby foods and hurt the taste and freshness of those foods. This problem is aggravated when the confined space is sealed such that there is very little air exchange or includes separately sealed compartments. A common attempt to solve this odor contamination problem is the use of an opened box of baking soda, especially in refrigerators. However, this static method is not very effective, because the bulk of the baking soda is not exposed to the contaminated air, and the air movement around the baking soda is minimal. The present invention as respectively defined by claims 35-39 has the advantage of providing a convenient

and versatile method for deodorizing air within a confined area through the use of both passive and forced air filter members.

The Examiner has rejected independent claim 35 and dependent claims 36-39 under 35 U.S.C. §103(a) as being unpatentable over Aibe et al in view of Arnold, III and further in view of Greif. Appellants do not believe that the Examiner has identified any teaching, suggestion or motivation to modify Aibe et al, Arnold, III or Greif along the lines of the present methods, or that any suggested modification of Aibe et al, Arnold, III and Greif renders obvious the invention as respectively defined by claims 35-39.

Particularly, the method of claim 35 requires, *inter alia*, providing separate passive and forced air filter members. Additionally, the method of claim 35 requires, *inter alia*, the second filter element of the forced air filter member to be positioned on an upper exterior portion of the forced filter member's housing and to be detachable from the forced filter member's air moving member (see Figs. 1 and 2). Moreover, the interfacing parts of the second filter element and the upper exterior portion of the housing having complimentary surface topography, and the passive filter member is interchangeable with the second filter element for positioning on the exterior portion of the housing.

Aibe et al relates to activated carbon honeycomb and applications thereof that are useful for the removal of malodorous and harmful components from a gas. Particularly, Aibe et al teach the use of an iodine-supporting activated carbon honeycomb for the efficient elimination of sulfur-containing compounds from air. Moreover, to achieve a more efficient removal of malodorous and harmful components from the air, Aibe et al disclose the use of an activated carbon honeycomb (e.g., an acid-supporting activated carbon honeycomb) in combination with a separate iodine-supporting activated carbon honeycomb within the same apparatus.

The Examiner asserted that Aibe et al teach the use of a second filter member that is

interchangeable with a passive filter member. In Aibe et al, however, the first and second filter members in Fig. 23 relied on by the Examiner (honeycombs 195 and 196) are contained within the same apparatus and are positioned for use in series. As such, Aibe et al merely disclose using one or multiple activated carbon honeycombs within the same apparatus. To the contrary, in the method of claim 35, the separate passive filter member is interchangeable with the second filter element of the forced air filter member for positioning on the exterior surface of the air moving member housing. Aibe et al provide no teaching in this regard. The Examiner relied on Arnold, III as disclosing a passive filter member. However, while Arnold, III may disclose a passive filter member, Appellants find no teaching by Aibe et al or Arnold, III for combining or modifying any feature of Aibe et al with the passive filter member of Arnold, II. Particularly, Appellants find no suggestion of using a separate, passive filter member that is interchangeable with a second filter element for positioning on an exterior portion of a housing of a forced air filter member.

Furthermore, claim 35 requires the second filter element of the forced air filter member to be positioned on an upper exterior portion of the air moving member's housing and detachable from the air moving member. Additionally, claim 35 requires the interfacing parts of the second filter element and the upper exterior portion of the housing to have complimentary surface topography. The Examiner, on page 5-6 of the Office Action dated May 12, 2006, asserted that the Greif reference discloses these limitations, as, the Examiner conceded, neither the Aibe et al nor Arnold references do. To the contrary, the Greif reference merely discloses a deodorizer container secured to a louvre blade by an attaching device such as, Velcro tape. The present methods, however, require the use of the second filter element of the forced air filter member positioned on an upper exterior portion of the air moving member's housing, and detachable from the air moving member, with the interfacing parts of the second filter element and the upper exterior portion of the housing having complimentary surface topography. Greif provides no

teaching of any filter member positioned on an exterior portion of a housing, or of a passive filter member interchangeable with such a filter member. As such, the cited references alone or in combination do not provide each and every claim limitation and therefore do not render claims 35-39 obvious.

Moreover, claim 35 requires a separate passive filter member and a forced air filter member including a second filter element. The Examiner, on page 5 of the Office Action dated May 12, 2006, conceded that both the Aibe et al and Arnold references fail to teach combining the use of a passive filter member and a forced air filter member. The Examiner simply contended that it would have been obvious to combine the teachings of Aibe et al and Arnold in order to maximize the rate of deodorization of air inside refrigerators by combining passive and active deodorizers. However, Appellants' methods do not simply combine unrelated passive and active deodorizers. Rather, the present methods employ a combination of specifically configured passive and active filter members which in combination provide a user with a versatile method for deodorizing air in a confined space.

As the Board is aware, references relied upon to support a rejection under 35 U.S.C. §103 must provide an enabling disclosure, i.e., they must place the claimed invention in the possession of the public. *In re Payne*, 203 U.S.P.Q. 245 (CCPA 1979). Here, while Aibe et al may show a first embodiment of their device in Fig. 1, a second embodiment in Fig. 17, and a third embodiment in Fig. 23, and Arnold, III may show a passive filter, Appellants find no teaching by Aibe et al or Arnold, III for selectively combining any of the elements of these embodiments to result in the presently claimed methods employing both a passive filter member and a forced air filter member including a second filter element, as defined in claim 35. The Examiner has improperly combined random elements from multiple embodiments of the Aibe et al reference and Arnold, III without any proper motivation to do so, *In re Rouffet*, 47 USPQ2d 1453, 1456

(Fed. Cir. 1998). Indeed, the combination only makes sense in light of the present application. As such, the cited references do not provide the requisite suggestion of desirability or motivation. Accordingly, for at least these reasons, claims 35-39 are nonobvious over and patentably distinguishable from Aibe et al and Arnold, III.

In addition, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the Appellants. *In re Dance*, 160 F.3d 1339, 1343, 48 U.S.P.Q. 2d 1635, 1637 (Fed. Cir. 1998); *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). Appellants find no teaching by any cited reference, alone or in combination, disclosing the use of separate passive and forced air filter members or the desirability of a method comprising a passive filter member that is interchangeable with a second filter element of a forced air filter member. Additionally, Appellants find no teaching by any cited reference, alone or in combination, disclosing a second filter element of the forced air filter member being positioned on an upper exterior portion of the air moving member's housing, being detachable from the air moving member and requiring the interfacing parts of the second filter element and the upper exterior portion of the housing to have complimentary surface topography. As such, the cited references do not provide the requisite suggestion of desirability or motivation. Accordingly, for at least these reasons, claims 35-39 are nonobvious over and patentably distinguished from Aibe et al, Arnold, III, and Greif, whereby the rejection of these claims under 35 U.S.C. §103 should be reversed.

### **3. Claim 39 is Independently Patentable**

It is important to note that the dependent claim 39, while non-obvious and patentably distinct over Aibe et al, Arnold, III and Greif in light of the reasons presented above for independent claim 35 from which it depends, includes additional elements which further renders

it non-obvious. For example, claim 39 recites that the confined space comprises a compartment separate from the remainder of the confined space, and that the passive filter member is positioned inside the compartment and the forced air filter is positioned in a remaining portion of the confined space. The Examiner, on page 6 of the Office Action dated May 12, 2006, asserted that the Aibe et al reference teaches that the confined space is inside a refrigerator and that a refrigerator intrinsically includes compartments separate from the remainder of the confined space. As such, the Examiner asserted that inserting the device in the compartments or in the main section is an intrinsic step of deodorizing the air in a refrigerator. While Aibe et al may show use of a deodorizer in a confined space, Appellants find no teaching by Aibe et al, or any other cited reference of methods providing a passive filter member positioned in a compartment of the confined space separate from a portion of the confined space in which the forced air filter is positioned. As such, the cited references fail to teach or suggest the composition as recited in claim 39, and as such, the cited references do not render claim 39 obvious. Accordingly, the rejection of claim 39 under 35 U.S.C. §103 should be reversed.

For all of the reasons identified above, the rejection of claims 35-39 under 35 U.S.C. 35 U.S.C. §103 is improper and should be reversed. Favorable action by the Board is respectfully requested.

**B. Claims 22-26, 28-31, 33 and 40 are Patentable over Aibe et al and Arnold, III Under 35 U.S.C. §103(a)**

As will be set forth in detail below, it is believed the system for deodorizing air defined by claims 22-26, 28-31, 33 and 40 are nonobvious over and patentably distinguishable from the teachings of Aibe et al and Arnold, III. Accordingly, the rejection under 35 U.S.C. §103(a) should be reversed. Favorable action by the Board is respectfully requested.

**1. The Rejection**

In the Official Action dated May 12, 2005, the Examiner asserted that that Aibe et al disclose a system for deodorizing air, which includes a passive filter member, referring to Fig. 1, element 6, that removes malodor from air without the assistance of an air moving member, and a first filter element, referring to Fig. 17, element 127, that contains a first filter medium (col. 17, lines 17-18). The Examiner also asserted that Aibe et al, Fig. 23, teach providing a forced air filter member 194 having an air flow path from an inlet to an air outlet, and a second filter element 196 that includes a second filter medium and an air moving member 198. Moreover, the Examiner asserted that Aibe et al teach that the air moving member moves air along the air flow path and through the second filter medium and that the second filter element is capable of being positioned on an upper exterior portion of the housing such that the interfacing surfaces of the upper exterior surface of the housing and the second filters have complimentary surface topography. The Examiner also asserted that the passive filter member is interchangeable with the second filter element in the forced air filter member.

The Examiner relied on Arnold, III to teach placing a passive filter member that includes sodium bicarbonate in a refrigerator. The Examiner asserted, however, that it would have been obvious to modify the system of Aibe et al by utilizing the teachings of Arnold, III since the mechanism for odor elimination of sodium bicarbonate relies largely on the adsorption of odors from the atmosphere by the compound.

## **2. The Claimed Invention is Nonobvious**

The systems for deodorizing air defined by claims 22-26, 28-31, 33 and 40 are nonobvious over and patentably distinguishable from Aibe et al and Arnold, III.

As noted above, it is a well known problem that many food items tend to release malodors into the air which are then captured in the limited air space of a confined area, such as in a refrigerator. The present invention as respectively defined by claims 22-26, 28-31, 33 and

40 has the advantage of providing a convenient and versatile system for deodorizing air within a confined area through the use of both passive and forced air filter members.

The Examiner has rejected independent claim 40 and dependent claims 22-26, 28-31 and 33 under 35 U.S.C. §103(a) as being unpatentable over Aibe et al in view of Arnold, III. Appellants do not believe that the Examiner has identified any teaching, suggestion or motivation to modify Aibe et al or Arnold, III to result in the claimed system, or that any suggested modification of Aibe et al or Arnold, III renders obvious the invention as respectively defined by claims 22-26, 28-31, 33 and 40.

According to claim 40, the system comprises, *inter alia*, separate passive and forced air filter members. Additionally, the second filter element of the forced air filter member is positioned on an upper exterior portion of the forced filter member's housing and is detachable from the forced filter member's air moving member (see Figs. 1 and 2). Moreover, the system of claim 40 requires, *inter alia*, that the interfacing parts of the second filter element and the upper exterior portion of the housing having complimentary surface topography, and that the passive filter member is interchangeable with the second filter element for positioning on the exterior portion of the housing.

In forming the rejection of claim 40, the Examiner relies upon Aibe et al as teaching or suggesting, as previously noted, the use of a second filter member that is interchangeable with the passive filter member. In Aibe et al, however, the first and second filter members in Fig. 23 relied on by the Examiner are contained within the same apparatus. As such, Aibe et al merely disclose using one or multiple activated carbon honeycombs within the same apparatus. To the contrary, in the present invention, the separate passive filter member is interchangeable with the second filter element of the forced air filter member for positioning on the exterior portion of the housing. The Examiner relied on Arnold, III as disclosing a passive filter member. However,



while Arnold, III may disclose a passive filter member, Appellants find no teaching by Aibe et al or Arnold, III for combining their teachings to provide a separate, passive filter member that is interchangeable with a second filter element of a forced air filter member. As such, the cited references alone or in combination do not provide each and every claim limitation and therefore do not render claims 22-26, 28-31, 33 and 40 obvious under 35 U.S.C. §103.

Moreover, the Examiner's rejection of claim 40 fails to acknowledge that claims 40 requires a separate passive filter member and a forced air filter member including a second filter element. To the contrary, in rejecting claims 35-39, the Examiner, on page 5 of the Office Action dated May 12, 2006, conceded that both the Aibe et al and Arnold references fail to teach combining the use of a passive and forced air filter and simply contended that it would have been obvious to combine the teachings of Aibe et al and Arnold in order to maximize the rate of deodorization of air inside refrigerators by combining passive and active deodorizers. However, as the Examiner failed to make this obviousness argument with respect to claim 40, it appears clear that the Examiner does not believe the systems of claims 22-26, 28-31, 33 and 40 employing passive and active deodorizers are obvious. As such, the cited references alone or in combination do not provide each and every claim limitation and therefore the rejection of claims 22-26, 28-31, 33 and 40 is improper and should be reversed.

Furthermore, even if the Examiner made the assertion that it would have been obvious to combine the teachings of Aibe et al and Arnold in the rejection of claim 40 in order to develop a system employing both a passive filter member and a forced air filter member, such an assertion would fail. References relied upon to support a rejection under 35 U.S.C. §103 must provide an enabling disclosure, i.e., they must place the claimed invention in the possession of the public. *In re Payne, supra*. Here, while Aibe et al may show a first embodiment of their device in Fig. 1, a second embodiment in Fig. 17, and a third embodiment in Fig. 23, and Arnold may show a

passive filter, Appellants find no teaching by Aibe et al, Arnold, or any other cited reference, for selectively combining any of the elements of these embodiments to result in the presently claimed systems comprising both a passive filter member and a forced air filter member including a second filter element which are configured for interchangeability. Moreover, the Examiner would be improperly combining random elements from multiple embodiments of the Aibe et al reference without any proper motivation to do so, *In re Rouffet, supra*. Indeed, the combination would only make sense in light of the present application. As such, the cited references do not provide the requisite suggestion of desirability or motivation. Accordingly, for at least these reasons, claims 22-26, 28-31, 33 and 40 are nonobvious over and patentably distinguishable from Aibe et al and Arnold, III.

Additionally, the Examiner, on page 7 of the Office Action dated May 12, 2006, asserted, with reference to Fig. 23, that Aibe et al teach that the second filter element is positioned on an upper exterior portion of the housing such that the interfacing surfaces of the upper exterior surface of the housing and the second filter have complimentary surface topography. To the contrary, Aibe et al merely discloses positioning activated carbon honeycombs within a portion of the housing. While Aibe et al may show an embodiment with filters positioned within the housing, Appellants find no teaching by Aibe et al to result in the presently claimed system employing a second filter element positioned on an upper exterior portion of the housing such that the interfacing surfaces of the upper exterior surface of the housing and the second filter have complimentary surface topography. Indeed, the embodiment only makes sense in light of the present application. Furthermore, interestingly enough, this assertion is contrary to the position the Examiner took with regard to the rejection of claims 35-39. There, the Examiner, as detailed on page 5-6 of the Office Action dated May 12, 2006, conceded that neither the Aibe et al nor Arnold reference teach these limitations and, as such, attempted to employ the Greif reference. However, as stated above, the Greif reference also fails to teach the presently claimed

system. As such, the cited references in combination do not provide each and every claim limitation and therefore do not render claims 22-26, 28-31, 33 and 40 obvious.

Furthermore, the Examiner, on page 8 of the Office Action dated May 12, 2006, asserted that the Appellants recited the feature "to sit on the exterior portion of the housing" as a limitation of claim 40. As such, the Examiner contended that this feature was an intended use and did not limit the scope of claim 40. To the contrary, the present claim 40 requires the second filter element of the forced air filter member to be positioned on an upper exterior portion of the air moving member's housing and detachable from the air moving member. Additionally, claim 40 requires the interfacing parts of the second filter element and the upper exterior portion of the housing to have complimentary surface topography. As such, claims 40 presently recites structural limitations of the invention, rather than an intended use. To the contrary, while Aibe et al may show a first embodiment of their device in Fig. 1, a second embodiment in Fig. 17, and a third embodiment in Fig. 23, Appellants find no teaching by Aibe et al or Arnold, III for selectively combining any of the elements of these embodiments to result in the presently claimed system.

To establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the Appellants. *In re Dance, supra*; *In re Gordon, supra*. Appellants find no teaching by any cited reference, alone or in combination, disclosing the use of separate passive and forced air filter members, the desirability of a system comprising a passive filter member that is interchangeable with a second filter element of a forced air filter member. Additionally, Appellants find no teaching by either cited reference, alone or in combination, disclosing a second filter element of the forced air filter member being positioned on an upper exterior portion of the air moving member's housing, being detachable from the air moving

member and requiring the interfacing parts of the second filter element and the upper exterior portion of the housing to have complimentary surface topography. As such, the cited references do not render the presently claimed system obvious.

For all of the reasons identified above, the rejection of claims 22-26, 28-31, 33 and 40 under 35 U.S.C. §103 is improper and should be reversed. Favorable action by the Board is respectfully requested.

C. **Claims 41 is Patentable over Aibe et al and Arnold, III Under 35 U.S.C. §103(a)**

As will be set forth in detail below, it is believed the apparatus for deodorizing air defined by claim 41 is nonobvious over and patentably distinguishable from the teachings of Aibe et al or Arnold, III. Accordingly, the rejection under 35 U.S.C. §103(a) should be reversed. Favorable action by the Board is respectfully requested.

1. **The Rejection**

In the Official Action dated May 12, 2005, the Examiner asserted that that Aibe et al disclose an apparatus for deodorizing air, which includes a forced air filter member, referring to Fig. 23, element 194, having an air flow path from an inlet to an air outlet, and a forced filter element 196 that includes a second filter medium and an air moving member 198. Moreover, the Examiner asserted that Aibe et al teach that the air moving member moves air along the air flow path and through the second filter medium and that the second filter element is capable of being positioned on an upper exterior portion of the housing such that the interfacing surfaces of the upper exterior surface of the housing and the second filters have complimentary surface topography. The Examiner also asserted that the passive filter member is interchangeable with the second filter element in the forced air filter member.

The Examiner relied on Arnold, III to teach placing a passive filter member that includes

sodium bicarbonate in a refrigerator. The Examiner asserted, however, that it would have been obvious to modify the system of Aibe et al by utilizing the teachings of Arnold, III since the mechanism for odor elimination of sodium bicarbonate relies largely on the adsorption of odors from the atmosphere by the compound.

**2. The Claimed Invention is Nonobvious**

The system for deodorizing air defined by claim 41 is nonobvious over and patentably distinguishable from Aibe et al or Arnold, III.

As noted above, it is a well known problem that many food items tend to release malodors into the air which are then captured in the limited air space of a confined area, such as in a refrigerator. The present invention as respectively defined by claim 41 has the advantage of providing a convenient and versatile apparatus for deodorizing air within a confined area through the use of a forced air filter member.

The Examiner has rejected independent claim 41 under 35 U.S.C. §103(a) as being unpatentable over Aibe et al in view of Arnold, III. Appellants do not believe that the Examiner has identified any teaching, suggestion or motivation to modify Aibe et al or Arnold, III and/or that any suggested modification of Aibe et al or Arnold, III renders obvious the invention as defined by claim 41.

That is, according to claim 41, the apparatus comprises, *inter alia*, a forced air filter member having a filter element positioned on and detachable from the upper exterior portion of the forced filter member's housing (see Figs. 1 and 2). Moreover, the apparatus of claim 41 requires, *inter alia*, that the interfacing parts of the filter element and the upper exterior portion of the housing to have complimentary surface topography.

As previously noted, the Examiner relied on Aibe et al as teaching that the filter element

is positioned on an upper exterior portion of the housing such that the interfacing surfaces of the upper exterior surface of the housing and the second filter have complimentary surface topography. To the contrary, Aibe et al merely discloses positioning activated carbon honeycombs within a portion of the housing. While Aibe et al may show an embodiment with filters positioned within the housing, Appellants find no teaching by Aibe et al to result in the presently claimed apparatus employing a filter element positioned on an upper exterior portion of the housing such that the interfacing surfaces of the upper exterior surface of the housing and the filter have complimentary surface topography. Indeed, the combination only makes sense in light of the present application. Furthermore, interestingly enough, this assertion is contrary to the position the Examiner took with regard to the rejection of claims 35-39. There, the Examiner, as detailed on page 5-6 of the Office Action dated May 12, 2006, conceded that neither the Aibe et al nor Arnold reference teach these limitations and, as such, attempted to employ the Greif reference. However, as stated above, the Greif reference also fails to teach the presently claimed system. As such, the cited references in combination do not provide each and every claim limitation and therefore do not render claim 41 obvious.

For all of the reasons identified above, the rejection of claim 41 under 35 U.S.C. 35 U.S.C. §103 is improper and should be reversed. Favorable action by the Board is respectfully requested.

**D. Claim 27 is Patentable over Aibe et al, Arnold, III and Peludat Under 35 U.S.C. §103(a)**

As will be set forth in detail below, it is believed the system for deodorizing air defined by claim 27 is nonobvious over and patentably distinguishable from the teachings of Aibe et al, Arnold, III and Peludat. Accordingly, the rejection under 35 U.S.C. §103(a) should be reversed. Favorable action by the Board is respectfully requested.

**1. The Rejection**

In the Official Action dated May 12, 2005, the Examiner conceded that both the Aibe et al. and Arnold references fail to teach the combination of sodium bicarbonate with a fan. The Examiner, however, asserted that that the Peludat reference teaches using an air treating component that includes baking soda in combination with a fan. Therefore, the Examiner asserted that it would have been obvious to modify the system of Aibe et al to include baking soda as an air deodorizer as taught by Peludat since baking soda is known as an air deodorizer.

**2. The Claimed Invention is Nonobvious**

The system for deodorizing air defined by claim 27 is nonobvious over and patentably distinguishable from Aibe et al, Arnold, III and Peludat.

As noted above, it is a well known problem that many food items tend to release malodors into the air which are then captured in the limited air space of a confined area, such as in a refrigerator. The present invention as respectively defined by claim 27 has the advantage of providing a convenient and versatile apparatus for deodorizing air within a confined area through the use of a fan and sodium bicarbonate filter members.

The Examiner has rejected dependent claim 27 under 35 U.S.C. §103(a) as being unpatentable over Aibe et al in view of Arnold, III as applied to claim 40 and further in view of Peludat. Appellants do not believe that the Examiner has identified any teaching, suggestion or motivation to modify Aibe et al., Arnold, III or Peludat and/or that any suggested modification of Aibe et al., Arnold, III or Peludat renders obvious the invention as respectively defined by claim 27.

According to claim 27, the system comprises, *inter alia*, separate passive and forced air filter members. Additionally, the second filter element of the forced air filter member is positioned on an upper exterior portion of the forced filter member's housing and is detachable

from the forced filter member's air moving member (see Figs. 1 and 2). Moreover, the system of claim 27 requires, *inter alia*, that the interfacing parts of the second filter element and the upper exterior portion of the housing having complimentary surface topography, and that the passive filter member is interchangeable with the second filter element for positioning on the exterior portion of the housing.

It is important to note that the claim 27 is dependant upon independent claim 40. As such, the deficiencies of Aibe et al and Arnold, III discussed above apply equally as well in this rejection and are not resolved by Peludat. Additionally, while Peludat may disclose the combination of sodium bicarbonate and a fan used in an air deodorizer, it provides no teaching of any filter member positioned on an exterior portion of a housing, or of a separate passive filter member interchangeable with such a filter member. As such, Appellants find no teaching by Aibe et al, Arnold, III or Peludat disclosing the use of separate passive and forced air filter members, or the desirability of a system comprising a passive filter member that is interchangeable with a second filter element of a forced air filter member. Additionally, Appellants find not teaching by either cited reference, alone or in combination, disclosing a second filter element of the forced air filter member being positioned on an upper exterior portion of the air moving member's housing, being detachable from the air moving member and requiring the interfacing parts of the second filter element and the upper exterior portion of the housing to have complimentary surface topography. As such, the cited references do not provide the requisite suggestion of desirability or motivation. Accordingly, for at least these reasons, the rejection of claim 27 is improper and should be reversed.

**E. Claims 32 and 34 are Patentable over Aibe et al, Arnold, III and Ganz Under 35 U.S.C. §103(a)**

As will be set forth in detail below, it is believed the system for deodorizing air defined by claims 32 and 34 are nonobvious over and patentably distinguishable from the



teachings of Aibe et al, Arnold, III and Ganz. Accordingly, the rejection under 35 U.S.C.

§103(a) should be reversed. Favorable action by the Board is respectfully requested.

**1. The Rejection**

In the Official Action dated May 12, 2005, the Examiner conceded that both the Aibe et al and Arnold references fail to teach the concept of having complementary hemispherical interfacing parts between the filter member and the air-moving member and the use of a scent-emitting member. The Examiner, however, asserted that that the Ganz reference discloses an emitting member including scent to be admitted into the atmosphere and also discloses a hemispherical filter member for deodorizing air. Therefore, the Examiner asserted that it would have been obvious to modify the system of Aibe et al to include a spherical filter member as taught by Peludat since such a shape has an attractive appearance.

**2. The Claimed Invention is Nonobvious**

The system for deodorizing air defined by claims 32 and 34 are nonobvious over and patentably distinguishable from Aibe et al, Arnold, III and Ganz.

As noted above, it is a well known problem that many food items tend to release malodors into the air which are then captured in the limited air space of a confined area, such as in a refrigerator. The present invention as respectively defined by claims 32 and 34 have the advantage of providing a convenient and versatile system for deodorizing air within a confined area.

The Examiner has rejected dependent claims 32 and 34 under 35 U.S.C. §103(a) as being unpatentable over Aibe et al. in view of Arnold, III as applied to claim 31 and further in view of Ganz. Appellants do not believe that the Examiner has identified any teaching, suggestion or motivation to modify Aibe et al., Arnold, III or Ganz and/or that any suggested modification of

Aibe et al., Arnold, III or Ganz renders obvious the invention as respectively defined by claims 32 and 34.

According to claims 32 and 34, the systems comprise, *inter alia*, separate passive and forced air filter members. Additionally, the second filter element of the forced air filter member is positioned on the upper exterior portion of the forced filter member's housing and is detachable from the forced filter member's air moving member (see Figs. 1 and 2). Moreover, the systems of claims 32 and 34 require, *inter alia*, that the interfacing parts of the second filter element and the upper exterior portion of the housing have complimentary surface topography, and that the passive filter member is interchangeable with the second filter element for positioning on the exterior portion of the housing.

Claims 32 and 34 are dependant upon independent claim 40. As such, the deficiencies of Aibe et al and Arnold, III discussed above apply equally as well in this rejection and are not resolved by Ganz. Additionally, while Ganz may show use of a spherical shaped container including hemispherical parts, it provides no teaching of any filter member positioned on an exterior portion of a housing, or of a separate passive filter member interchangeable with such a filter member. As such, Appellants find no teaching by Aibe et al, Arnold, III or Ganz disclosing the use of separate passive and forced air filter members, or the desirability of a system comprising a passive filter member that is interchangeable with a second filter element of a forced air filter member. Additionally, Appellants find not teaching by any cited reference, alone or in combination, disclosing a second filter element of the forced air filter member being positioned on an upper exterior portion of the air moving member's housing, being detachable from the air moving member and requiring the interfacing parts of the second filter element and the upper exterior portion of the housing to have complimentary surface topography. As such, the cited references do not provide the

requisite suggestion of desirability or motivation. Accordingly, for at least these reasons, the rejection of claims 32 and 34 are improper and should be reversed.

**3. Claim 32 is Independently Patentable**

It is important to note that the dependent claim 32, while non-obvious and patentably distinct over Aibe et al and Arnold, III in light of the reasons presented above for independent claim 40 from which it depends, includes additional elements which further support its respective distinctiveness and thus renders it non-obvious. For example, claim 32 provides that the interfacing parts of the second filter element and the air moving member have complementary hemispherical shapes. The Examiner, on page 6 of the Office Action dated May 12, 2006, asserted that it would have been obvious to modify the system of Aibe et al to include a spherical filter member as taught by Ganz since such a shape has an attractive appearance. Here, while Ganz may show use of a spherical shaped container including hemispherical parts, Appellants find no teaching by Ganz, or any other cited reference, to result in the presently claimed systems employing a second filter element and an air moving member having interfacing parts of complementary hemispherical shape. As such, the cited references fail to teach or suggest the composition as recited in claim 32, and as such, the cited references do not render claim 32 obvious.

For all of the reasons identified above, the rejection of claims 32 and 34 under U.S.C. 35 U.S.C. §103 are improper and should be reversed. Favorable action by the Board is respectfully requested.

**VII. CONCLUSION**

For all of the reasons identified above, the rejections of claims 22-41 under U.S.C. 35 U.S.C. §103 are improper and should be reversed. Favorable action by the Board is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "J. T. Dipre", is written over a horizontal line.

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**VIII. CLAIMS APPENDIX**

22. The system for deodorizing air of claim 40, the passive filter member being of the same shape as the second filter element.

23. The system for deodorizing air of claim 22, the passive filter member being the same size as the second filter element.

24. The system for deodorizing air of claim 40, each of the passive filter member and the second filter element comprising a cartridge.

25. The system for deodorizing air of claim 24, each cartridge comprising a top portion and a bottom portion and being provided with one or more air inlets in the top portion and one or more air outlets in the bottom portion.

26. The system for deodorizing air of claim 25, the upper exterior portion of the air moving member comprising a housing having an air inlet therein, and the second filter element cartridge being positioned on the upper exterior portion of the housing of the air moving member so that the one or more air outlets on the bottom portion of the second filter element cartridge are at least partially in alignment with the air inlet of the air moving member.

27. The system for deodorizing air of claim 40, the air moving member comprises a fan and the sodium bicarbonate in each of the first filter member and the second filter member being sufficiently pervious to air so that the fan can convey air through the respective filter member.

28. The system for deodorizing air of claim 40, each of the passive filter member and the second filter element comprising a container having at least two sides comprised of an air pervious material with the sodium bicarbonate positioned between the at least two sides of air pervious material.

29. The system for deodorizing air of claim 28, each container comprising a bag made of air pervious material with the sodium bicarbonate positioned therein.

30. The system for deodorizing air of claim 40, the first filter medium and the second filter medium each further comprising activated carbon.

31. The system for deodorizing air of claim 40, the second filter element being held in place on the air moving member by gravitational force and by surface topology of interfacing parts of the second filter element and the air moving member.

32. The system for deodorizing air of claim 31, the interfacing parts of the second filter element and the air moving member having complementary hemispherical shapes.

33. The system for deodorizing air of claim 31, the second filter element being removable from the air moving member by lifting the second filter element upwardly.

34. The system for deodorizing air of claim 31, at least one of the second filter element and the passive filter member comprising a scent substance adapted to be emitted into the atmosphere.

35. A method for deodorizing air in confined space, comprising the steps of:

(a) providing a passive filter member comprising a first filter element, the first filter element comprising a first filter medium which at least partially comprises sodium bicarbonate, and the passive filter member being adapted to remove malodor from air without the assistance of an air moving member;

(b) providing a forced air filter member having an air flow path from an air inlet to an air outlet, the forced air filter member comprising a second filter element and an air moving member, the second filter element comprising a second filter medium which at least partially comprises sodium bicarbonate, the air moving member having a housing and being adapted to move air along the air flow path and through at least a portion of the second filter medium, the second filter element being positioned on an upper exterior portion of the housing and detachable from the air moving member, interfacing parts of the second filter element and the upper exterior portion of the housing having complimentary surface topography, and the passive filter member being interchangeable with the second filter element for positioning on the exterior portion of the housing;

(c) positioning the passive filter member inside a confined space;

(d) positioning the forced air filter member inside the confined space during the same period of time as the passive filter member is positioned within the confined space, but in a location that is independent from the position of the passive filter member; and

(e) neutralizing odor in the air of the confined space by allowing air to come into proximity with the first filter member and by drawing air toward the sodium bicarbonate in the second filter member.

36. The method for deodorizing air in confined space of claim 35, the passive filter member being of the same shape as the second filter element.

37. The method for deodorizing air in confined space of claim 36, the passive filter member being the same size as the second filter element.

38. The method for deodorizing air in confined space of claim 35, the confined space being inside a refrigerator.

39. The method for deodorizing air in confined space of claim 35, the confined space comprising a compartment separate from the remainder of the confined space, and the passive filter member being positioned inside the compartment and the forced air filter being positioned in a remaining portion of the confined space.

40. A system for deodorizing air, comprising:

a passive filter member comprising a first filter element, the first filter element comprising a first filter medium which at least partially comprises sodium bicarbonate, and the passive filter member being adapted to remove malodor from air without the assistance of an air moving member; and

a forced air filter member having an air flow path from an air inlet to an air outlet, the forced air filter member comprising a second filter element and an air moving member, the



second filter element comprising a second filter medium which at least partially comprises sodium bicarbonate, the air moving member having a housing and being adapted to move air along the air flow path and through at least a portion of the second filter medium, the second filter element being positioned on an upper exterior portion of the housing and detachable from the air moving member, interfacing parts of the second filter element and the upper exterior portion of the housing having complimentary surface topography;

and the passive filter member being interchangeable with the second filter element for positioning on the exterior portion of the housing.

41. An apparatus for deodorizing air, comprising:

a forced air filter member having an air flow path from an air inlet to an air outlet, the forced air filter member comprising a filter element and an air moving member, the filter element comprising a filter medium which at least partially comprises sodium bicarbonate, the air moving member having a housing and being adapted to move air along the air flow path and through at least a portion of the filter medium, the filter element being positioned on an upper exterior portion of the housing and detachable from the air moving member, interfacing parts of the filter element and the upper exterior portion of the housing having complimentary surface topography.

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**IX. EVIDENCE APPENDIX**

None.

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**X. RELATED PROCEEDINGS APPENDIX**

None.